CLAIMS

1. A method for detecting viral protein-protein interactions, said method comprising the steps of:

a) constructing a library of randomly-generated genomic viral DNA fragments in a DNA-binding domain vector;

b) constructing a library of randomly-generated genomic viral DNA fragments in an activation domain vector; and

c) assaying the library in the DNA-binding domain vector with the library in the activation domain vector by two-hybrid screening.

2. The method of claim 1, wherein either or both of said libraries is prepared from the hepatitis C virus genome or from the hepatitis G virus genome.

3. The method of claim 1, wherein either or both of said libraries is prepared from a cloned viral genome that is from a virus selected from the group consisting of herpes virus, potyvirus, flavivirus, and pestivirus.

4. The method of claim 1, wherein either or both of said libraries is prepared from a cloned viral genome that encodes a polyprotein precursor.

5. The method of claim 1, wherein either or both of said libraries is selected from the group consisting of GRBHCVL1 library deposited with the C.N.C.M. under access number I-2039 on June 15, 1998, and GRBHCVL2 library deposited with the C.N.C.M. under the access number I-2040 on June 15, 1998.

6. A method for detecting viral protein-protein interactions, said method comprising the steps of:

a) constructing a library of DNA fragments in a DNA binding domain vector, wherein at least one DNA fragment encodes at least one molecule that interacts with viral proteins, and wherein said at least one molecule is selected from the group consisting of protein, polypeptide, and peptide;

b) constructing a library of DNA fragments in an activation domain vector, wherein at least one DNA fragment encodes at least one molecule that interacts with viral proteins, and wherein said at least one molecule is selected from the group consisting of protein, polypeptide, and peptide; and

c) assaying the library in the DNA-binding vector with the library in the activation domain vector by two-hybrid screening.

7. The method of claim 6, wherein said protein is selected from the group consisting of an antibody, a receptor, a DNA binding protein, a glycoprotein, and a lipoprotein.

8. The method according to claim 1, wherein at least one peptide is expressed from the library in the DNA-binding vector and wherein the peptide is a variant molecule compared to the known wild type viral peptide.

9. The method according to claim 8, wherein the variant peptide presents at least one mutation selected from the group consisting of deletion, substitution, and insertion of at least one amino acid residue.

10. A peptide detected by the method of claim 1.

11. A pharmaceutical composition comprising at least one molecule that interferes with at least one viral protein, said at least one molecule that interferes being detected by the method of claim 1.

12. The pharmaceutical composition of claim 11, further comprising an acceptable physiological carrier and/or adjuvant.

13. The pharmaceutical composition of claim 12, wherein said composition is administered by a route selected from the group consisting of an intravenous route, an intramuscular route, an oral route, and a mucosal route.

14. A method for detecting specific viral protein epitopes in a biological sample, said method comprising the steps of:

a) contacting expression products from at least one of said libraries of claim 1 with an hyperimmune serum;

b) visualizing immunocomplexes formed between specific antibodies present in said serum and epitopes present on said expression products; and, optionally,

c) determining the sequence of the expressed epitopes selected.

15. An immunogenic composition comprising at least one epitope that elicits a protective response against infection, wherein said at least one epitope is detected by the method of claim 14.

16. A peptide detected by the method of claim 14.

17. A therapeutic composition comprising at least one peptide according to claim 16.

18. A method for delivering an *in vivo* expression vector encoding the peptide of claim 16, said method comprising administering said vector to an individual.

19. A method of diagnosing a viral infection in a biological sample, said method comprising the steps of:

a) contacting the biological sample with a library of randomly-generated genomic viral DNA fragments in a DNA-binding domain vector, or in an activation domain vector, under conditions where said viral DNA fragments are expressed; and

b) detecting interaction between expression products from said viral DNA fragments and at least one molecule present in said biological sample;

wherein interaction indicates a viral infection.

20. A method of diagnosing a viral infection in a biological sample, said method comprising the steps of:

a) contacting the biological sample with a collection of from 1 to 100 peptides according to claim 10 or 16; and

b) detecting interaction between at least one polypeptide according to claim 10 with at least one molecule present in said biological sample;

wherein interaction indicates a viral infection.

21. A diagnostic kit for the detection of a viral infection in a biological sample, said kit comprising at least:

a) a library or a collection, preferably said library of claim 1, 6 or 19, or a collection of peptides according to claim 10 or 16;

b) a medium or a support suitable for detecting viral protein-protein interaction and;

c) a medium suitable for revealing the presence of the type of viral protein.